



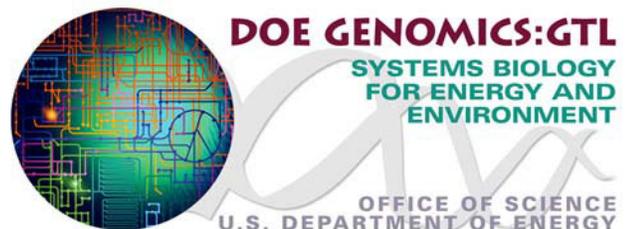
U.S. Department of Energy's Genomics:GTL Bioenergy Research Centers

Fact Sheet

August 2006



- DOE's Office of Science will establish up to two new Bioenergy Research Centers as part of the Office's Genomics: GTL (GTL) Program.
- Research Centers will focus on developing the science for biofuels production that will ultimately lead to technologies deployable in the nation's energy economy.
- A major emphasis will be on developing cost-effective means to produce ethanol from inedible plant fiber such as cellulose, to replace gasoline--a key goal of the President's Advanced Energy Initiative, announced in the President's 2006 State of the Union address.
- The Department also is interested in supporting well-directed research on other biofuels from biomass, including biodiesel, biofuels for aviation, and biologically based hydrogen and other fuels from sunlight.
- Research Centers will engage in basic research on energy-related microbial and plant systems, pursuing a range of high-risk, high-return approaches to finding solutions to developing energy efficient and cost-effective methods for producing alternative fuels from biomass, including not only cellulosic ethanol, but also potentially biodiesel, biofuels for aviation, hydrogen, and methane.
- Each Research Center will be funded for up to \$125 million over a period of five years: \$25 million in the first year for start-up costs and up to \$25 million per year for operations during the subsequent four years.
- Universities, national laboratories, nonprofit agencies, and private firms, as well as consortia comprising of partnerships of two or more such institutions, will be eligible for funding to establish and operate a Research Center.
- Research Centers will address scientific problems that are inherently interdisciplinary and will require scientific expertise and technological capabilities that span the physical and biological sciences, including genomics, microbial and plant biology, analytical chemistry, computational biology and bioinformatics, and engineering.





- Research Centers will have access to major DOE scientific instruments and user facilities (including DOE's world-class high-intensity light sources, whole genome sequencing capabilities, and world-leading supercomputing resources) as needed.
- To minimize the start-up costs and significantly decrease the time required for the Centers to become operational, the Centers will be established through renovating or leasing existing buildings rather than new construction.
- Examples of possible research areas include:
 - systems biology research relevant to the microbial conversion of plant biomass to liquid fuels;
 - understanding factors that control biomass yield, quality, and sustainability of feedstock crops; and
 - using microbes for the capture of solar energy and the subsequent conversion to such fuels as hydrogen.
- Potential applicants are encouraged to submit a letter of intent by Tuesday, December 5, 2006. Full applications must be received by February 1, 2007.
- Following scientific merit-based peer review, the Department expects to select the successful applicants in late summer of 2007.
- DOE anticipates that the Centers will be operational by fiscal year 2009.
- The Bioenergy Research Centers are the first two of four planned Centers, with possible Centers for systems biology research on environmental remediation and carbon sequestration planned for future years.

The Office of Science's GTL program employs a systems approach to biology at the interface of biological, physical, and computational sciences to address DOE's mission needs by developing the science, technology, and knowledge base to harness microbial and plant systems for cost-effective renewable energy production, carbon sequestration, and environmental remediation.